UNITED STATES DISTRICT COURT FOR THE DISTRICT OF MASSACHUSETTS

ARISE FOR SOCIAL JUSTICE; ¿OISTE?; NEW ENGLAND STATE-AREA CONFERENCE OF THE NAACP; REV. TALBERT W. SWAN, II; NORMAN W. OLIVER; DARLENE ANDERSON; GUMERSINDO GOMEZ; FRANK BUNTIN; RAFAEL RODRIQUEZ; and DIANA NURSE,

Plaintiffs.

 $\mathbb{V}.$

CITY OF SPRINGFIELD and SPRINGFIELD ELECTION COMMISSION,

Defendants.

Civil Action No.05-30080 MAP

AFFIDAVIT OF KARIN DOWNS

- l, Karin Downs, hereby certify as follows on the basis of my personal knowledge:
- I currently am Assistant Director for Clinical Affairs at the Massachusetts
 Department of Public Health's Division of Perinatal, Early Childhood and
 Children with Special Health Care Needs.
- 2. The Massachusetts Department of Public Health ("MDPH") is a public agency of the Commonwealth of Massachusetts.
- 3. The Massachusetts Perinatal Disparities Project ("Project") is a project of the MDPH in conjunction with the Matrixed Analytic Training for Reproductive, Infant, and Child Health Services (MATRICHS) program. MATRICHS is funded by the Center for Disease Control and Prevention (CDC) and the Association of Maternal and Child Health Programs.
- 4. Attached hereto as Exhibit A is a true and correct copy of a report entitled, "The Perinatal Disparities Project: Final Project Report" (the "Report"). The Report is a business record maintained by the Massachusetts Department of Public Health in the regular course of its business.
- It is the regular practice of the Massachusetts Department of Public Health to create and maintain reports such as the Report attached as Exhibit A.

- 6. Attached hereto as Exhibit B is a summary of the Report (the "Report Summary"). The Report Summary is a business record maintained by the Massachusetts Department of Public Health in the regular course of its business.
- It is the regular practice of the Massachusetts Department of Public Health to create and maintain reports such as the Report Summary attached as Exhibit B.

Signed under penalties of perjury this 2 day of February, 2007.

Karin Downs, R.N., M.P.H

CERTIFICATE OF SERVICE

I hereby certify that this document filed through the ECF system will be sent electronically to the registered participants as identified on the Notice of Electronic Filing (NEF) and paper copies will be sent to those indicated as non-registered participants on February 2, 2007.

/s/ Paul E. Nemser

THE PERINATAL DISPARITIES PROJECT FINAL PROJECT REPORT

The Massachusetts MATRICHS Team

Maia BrodyField, Beth Buxton, Claudia Catalano, Karin Downs, & Penny Liu With additional assistance from Zobeida Bonilla-Vega & Hafsatou Diop

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A. INTRODUCTION & OVERVIEW

BACKGROUND - STATEMENT OF NEED

Massachusetts has very high perinatal disparities based on race despite relatively low overall incidences of low birth weight (LBW; <2500 grams), preterm birth (PTB; < 37 weeks) and infant and maternal mortality. It is well known that births less than 1500 grams (very low birth weight; VLBW), the majority of which occur at very preterm gestations (VPTB; < 28 weeks), account for two-thirds of the racial disparity in U.S. infant mortality. In Massachusetts from 1998 - 2002, black women were 2.8 times more likely than white women to have a VLBW infant and 1.8 times more likely to have an LBW infant. They were also 3.7 times more likely to have an infant born at less than 28 weeks gestation and 1.6 times more likely to deliver an infant at less than 37 weeks gestational age. Racial disparities are also seen among fetal - infant deaths in the state, where blacks are 2.8 times more likely to experience a fetal or infant death (Table 1) ³.

Massachusetts is experiencing worsening racial and ethnic perinatal disparities possibly related to increasing numbers of immigrants and undocumented persons; rising unemployment and homelessness rates; and fiscal constraints on programs and services. Currently, Massachusetts has an estimated population of 6,349,097 of whom 1,464,584 are women ages 15 – 44.⁴ In 2000, the general population was 5.0% black non-Hispanic, 6.8% Hispanic and 3.7% Asian. Resident births in 2003 were 7.4% to black non-Hispanic mothers, 12.2% to Hispanic mothers and 6.5% to Asian mothers.³ Between 1990 and 2000, both Hispanic and black populations were estimated to have grown by 41%. The predominant Hispanic ancestry groups in Massachusetts are Puerto Rican and Dominican, populations that have had poorer perinatal outcomes within the Hispanic population as a whole.⁵ Furthermore, according to the 2000 Census, 12.2% of the Commonwealth's population was foreign born, compared with 11.1% nationwide.⁶ This changing population profile in Massachusetts presents new challenges in addressing racial disparities in birth outcomes. In response to these increasing disparities, the Massachusetts Department of Public Health (MDPH) identified addressing racial disparities in perinatal outcomes as a priority.

In December 2003, through participation in the Association of Maternal and Child Health Programs (AMCHP) Disparities Action Learning Lab (ALL), Massachusetts initiated a strategic planning process at both the state and community levels to address racial disparities in birth outcomes (see Appendix 1, Logic Model). At the conclusion of the AMCHP Disparities ALL, the Massachusetts Team continued to work on issues of perinatal disparities by participating in the Matrixed Analytic Training for Reproductive, Infant, and Child Health Services (MATRICHS) program. The MATRICHS, funded by the Center for Disease Control and Prevention (CDC) and AMCHP, is a nine-month on-line program to train maternal and child health professionals to identify a critical policy issue and use national, state and local data to inform policy direction and program priorities.

The Massachusetts MATRICHS Team members include an MCH Decision Maker (Karin Downs), Technical Analyst (Penny Liu), Program Analyst (Beth Buxton), Community Advocate (Maia BrodyField), and Program Coordinator (Claudia Catalano). The Perinatal Disparities Project grew out of MDPH's participation in both the AMCHP Disparities ALL and MATRICHS.

The goals of the Perinatal Disparities Project are to:

1) enhance the capacity of community partners to address racial disparities in birth outcomes by collecting and analyzing state and local data to inform policy and identify program priorities; and

2) establish a formal communication network between Massachusetts communities to encourage information sharing, raise public awareness, and to advocate for resources to eliminate institutional racism defined as differential access to the goods, services and opportunities of society by race.

The Perinatal Disparities Project intends to analyze the contributing factors to the excess of infantfetal death among blacks in each of five communities across the state (Boston, Lawrence, New Bedford, Springfield, and Worcester). However, for the purposes of the MATRICHS project, the Team decided to narrow the project focus to one community, Springfield. The Richmond and Kotelchuck Model 8 underscores that strong political will and social strategy are important factors in translating knowledge into practice. The presence of both these factors guided the Team's decision to focus initially on Springfield. In addition, the Team recognized that perinatal disparities is a significant public health issue in Springfield, and that there are resources to address the issue. The Team approached the Maternal and Child Health (MCH) Commission of the Springfield Department of Health and Human Services, a group of stakeholders interested in establishing a Fetal Infant Mortality Review (FIMR) process. Through a series of discussions, it was determined that the MCH Commission was interested in developing skills that would provide a greater capacity to identify and respond to the issue of perinatal disparities in their community.

The initial research question that the Team chose to address is:

Within the last 5 years ('98-'02) in Springfield Massachusetts, what factors contributed to the excess of poor birth outcomes including fetal/infant mortality, PTB, and VPTB among blacks?

B. METHODS USED

The Project used both analytic and process methods to identify the impact of racism on perinatal outcomes and to address the research question of interest.

Analytic methods:

Data sources and study population

The Team used data from Massachusetts Community Health Information Profile (MassCHIP v300r311)³ and 1998-2002 vital files, including births, fetal deaths, and birth-death linked files for the study population: in-state fetal deaths and live births in 1998-2002 in Springfield, MA. From these data sets, the Team obtained data on the independent variables of interest (race/ethnicity), the dependent variables of interest (outcomes; LBW, VLBW, PTB, and fetal/infant deaths), and the selected covariates (maternal age, education, smoking status during pregnancy, payment of delivery, and adequacy of prenatal care).

Measures of covariates

Mothers were classified as teens if they were older than 20 years of age, and adults if they were 20 years of age or older. Women who completed less than 12 years of education were defined as receiving less than a high school education, whereas those women who completed 12 or more years of education or those who received a GED certificate were defined as having a high school

education or more. Among those insured, mothers whose deliveries were paid by Medicaid, Healthy Start, Medicare, Uncompensated Care Pool, and other government funds were classified as having public insurance, while the remainder were identified as privately insured.

The Kotelchuck index was used to measure the adequacy of prenatal care, in which "expected number of visits" based on the gestational age of the infant and the month care began are determined. Women were grouped into four categories: inadequate, if < 50% of expected visits, intermediate, if 50%-79.9% of expected visits, adequate, if 80-109.9% of expected visits, and adequate plus, if $\geq 110\%$ of expected visits. ¹⁰ In this project, women were categorized into two groups. One group encompassed those defined as receiving no, inadequate or intermediate prenatal care and while the second group was defined as receiving adequate or adequate plus prenatal care.

Data analysis

The Team conducted a bivariate analysis, population attributable risk (PAR), and perinatal period of risks (PPOR). For the purposes of this project, the Team's used the more detailed analysis for bivariate analysis and PAR focused on PTB. In the bivariate analysis, the Team used chi-square statistics to examine potential confounders and effect modifiers. The Team first examined the associations of PTB with race/ethnicity (black vs. white) and the selected covariates, and second the association between race/ethnicity and the selected covariates. Variables that were significantly associated with both PTB and being black were identified as potential confounders. The Team further assessed the associations of PTB with race/ethnicity stratified by the selected covariates. Covariates with associations with different directions across strata were considered as effect modifiers.

The Team estimated PAR of PTB for independent variable and covariates to facilitate priority setting. Two components comprised the PAR statistics, relative risk and prevalence of a risk indicator. Thus, priorities may be given to conditions that are prevalent even if the relative risks are not the highest.

The Team mapped the feto-infant mortality using the PPOR approach. The PPOR approach was first introduced to the US in 1997 with a focus on reducing overall feto-infant mortality and examining opportunity gaps for interventions. It includes fetal deaths \geq 24 weeks and live births \geq 500 grams as the denominators, while excluding spontaneous and induced abortions. Fetal death files, birth files, and birth-death linked files were used to calculate the feto-infant mortality rates (FIMR) for each of the following 4 cells, based on birth weight and time of death:

- 1. Feto-infant deaths 500-1499 grams: improving maternal health (pre- and inter-pregnancy health) is the key to reduce deaths in this cell.
- 2. Fetal deaths ≥1500 grams: improving maternal care (prenatal care, high risk obstetric care) is the key to reduce deaths in this cell.
- 3. Live births ≥1500 grams with the age of death within 28 days of births: improving newborn care is the key to reduce deaths in this cell.
- 4. Live births ≥1500 grams with the age of death between 29-365 days: infant health (sleeping position, breastfeeding, injury prevention) is the key to reduce deaths in this cell.

		eto-infant deaths 500-1499 gran Maternal Health/Prematurity	
epi	Fetal deaths ≥1500 grams (Maternal Health)	Live births ≥1500 grams Died ≤ 28 days (Newborn Care)	Live births ≥1500 grams Died 29-365 days (Infant Health)

In Phase 2 of this Project, the Team, in partnership with the Springfield MCH Commission, will conduct multivariate analysis (logistic regression) and focus groups. While multivariate analysis provides quantitative information on risk identification, focus groups will gather qualitative data from women from the population of interest in Springfield to assess their opinions regarding the causes of perinatal disparities in their community. Using the results of the PPOR analysis, the Team will conduct a series of focus groups with women of varying racial and ethnic backgrounds in order to gather their input about the results. Women will be asked about the key findings and disparities with particular focus on maternal health as an intervention point. In addition, women will be asked about the range of experiences they have with individual and institutional levels of racism in Springfield. This qualitative data will guide the development of a strategic plan to address disparities in birth outcomes in their community.

Process methods:

In addition to developing a logic model for the Perinatal Disparities Project, the Team also used other tools to frame the issue of perinatal disparities including the Ecologic Model and a SWOT analysis (Strengths, Weaknesses, Opportunities, Threats). The Ecologic Model (Appendix 2) describes factors within the biological, physical, social and health environments at the community, family and individual levels that impact disparities in birth outcomes. The SWOT (Appendix 4) is a quick analysis of factors that contribute to the strengths, weaknesses, opportunities and threats to the Perinatal Disparities Project. These exercises underscored the complexity of the issue of perinatal disparities, and the challenges of effectively addressing the many factors that contribute to these disparities.

Additionally, the Team, in partnership with the MCH Commission and community based organizations, conducted a series of activities to develop a model program for enhancing the capacity of communities to address perinatal disparities. The first activity included meeting with stakeholders and community partners in Springfield to assess strengths, skills and capacity within the community for collecting and analyzing data. The second activity involved developing a training module focused on collecting and analyzing data, framing the issue, and developing a strategic plan to address perinatal disparities in the community. The Project has begun this activity by providing training in the use of the MassCHIP data set. The Team will continue to provide additional training in data collection and analytic methods (see training schedule in Appendix 5) as well as providing on-going technical support to community partners in Springfield.

C. RESULTS

Racial Disparities in birth outcomes in Springfield

Overall, Springfield has birth outcomes worse than the state averages for both whites and blacks. However, the disparities between whites and blacks were smaller than those for the Commonwealth. In Springfield from 1998-2002, black women were 3 times more likely than white women to have a VPTB and 1.4 times more likely to deliver a preterm infant (Table 2). About 13.1% and 1.7% of black infants born in 1998-2002 in Springfield were PTB and VPTB, respectively, compared to 9.7% and 0.6% for white infants. Furthermore, infants born to blacks were nearly twice as likely as whites to have VLBW and 1.4 times more likely to have LBW. About one out of every nine black infants (11.5%) born in Springfield in 1998-2002 were LBW, compared to one out of every twelve (7.9%)

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for the whites. The figures of VLBW for blacks and whites were 2.6% and 1.3%, respectively in Springfield in 1998-2002. When examining the feto-infant mortality rate in Springfield, blacks experienced a 1.3 times higher rate than whites in 1998-2002 (2.2% vs. 0.9%).

MATERNAL CHARACTERISTICS OF PRETERM BIRTH IN SPRINGFIELD

In Springfield, from 1998-2002, besides being black, other maternal characteristics associated with preterm birth included having less than a high school education, being less than 20 years old, receiving public insurance, and smoking during pregnancy (Table 3). Women who had not complete high school were 1.2 times more likely to have a preterm birth compared to women who had at least a high school education. Teenagers were 1.4 times more likely to have a preterm birth than women equal to or greater than 20 years old. Publicly insured women were 1.2 times more likely to have a preterm birth than women with private insurance. Furthermore, women who smoked during pregnancy were 1.2 times more likely to have a preterm birth than women who did not smoke cigarettes.

CHARACTERISTICS OF BLACK BIRTHS IN SPRINGFIELD

Compared to white mothers, black mothers were 1.5 times more likely to have not graduated from high school and were 2 times more likely to be a teenager at the time of delivery (Table 4). Black mothers were also 1.9 times more likely to be enrolled in public insurance at the time of delivery than white mothers and were also 1.8 times more likely to have less than adequate prenatal care. However, black mothers were 31% less likely to smoke during pregnancy than white mothers.

No effect modification by maternal education, insurance, prenatal care, age, and smoking status during pregnancy was found on the associations of PTB with race/ethnicity (Appendix 3).

Population Attributable Risk: Springfield

Twelve percent (87) of preterm deliveries among whites and blacks in Springfield could have been prevented if the excess risk of having a preterm infant among black women was reduced to the same level of risk as for white women (Table 5). Similarly, 8.7% (117) of preterm deliveries among the insured mothers could have been reduced if the excess risk of having a preterm infant among the publicly insured women was reduced to the same level of risk of having a preterm infant among privately insured women in Springfield in 1998-2002. The excess PTB associated with less than high school education, smoking during pregnancy, and less than 20 years of age were 75, 48 and 33, respectively.

PERINATAL PERIODS OF RISK: SPRINGFIELD

In 1998-2002, there were a total of 12,017 live births and fetal deaths in Springfield; of these, 4,019 were white and 2,604 were black (Table 6). The feto-infant mortality rate (FIMR) in Springfield was 12.7% for black mothers and 6.7% for white. Although infant health also contributed significantly, maternal health accounted for the majority of the FIMR disparities between white and black in Springfield (5.4% vs. 2.0%). When compared to the reference group of Massachusetts fetuses and infants born to white mothers who were 20 years or older and who completed 13 or more years of education (reference group; 4.2%), blacks in Springfield had an excess FIMR of 8.5% while whites had an excess FIMR of 2.5%.

Fifty-one excess feto-infant deaths in Springfield in 1998-2002 could have been prevented if the risk of feto-infant deaths for Springfield women was reduced to the same level of risk of feto-infant deaths for women in the reference group. The excess feto-infant deaths for blacks and whites in

Springfield, relative to the reference group, were 22 and 10, respectively. Interventions to improve the pre-pregnancy health and infant health may present opportunities to narrow the disparities between Springfield and the reference group. Furthermore, improving the pre-pregnancy health is also a key to reduce the disparities in feto-infant deaths between whites and blacks in Springfield.

D. DISCUSSIONS AND NEXT STEPS

Developing a theoretical framework and using appropriate data effectively are keys to implementing a strategic planning process that addresses perinatal disparities. The Massachusetts Perinatal Disparities Project's use of process methods to frame the issues and analytical methods to identify priorities provides an opportunity for the state to address racial disparities in birth outcomes. The Team's work so far includes developing a logic model, an ecologic model, and a SWOT analysis, partnering with an existing community infrastructure (e.g., MCH commission, FIMR, Strategic Planning Groups), and providing data support and training to Springfield. Although still in process, this work may serve as a model for other Massachusetts communities.

For a project focused on racial and ethnic disparities and their contributing factors, the largest limitation was the lack of quantitative data on individuals' experiences with racism and with differential treatment in the health care system. Measures of these factors are still being developed by experts in the field. As they are incorporated into Massachusetts' data systems, the relationship of institutional racism to birth outcomes may become clearer and the analysis of perinatal disparities will be more robust. However, there are multiple factors at the social, community, family and individual levels that can influence both a women's experience of racism as well as their birth outcomes. Examining each possible factor in depth is beyond the scope of this Project. Additional limitations the Team faced included a lack of sustainable resources including funding and staff who could be assigned to work full time on the project.

At this point in time, the Perinatal Disparities Project plans to continue working with partners in Springfield to complete training, frame the issue of racial and ethnic disparities through qualitative data collection, and complete a strategic plan based on community specific data to address local policy and program priorities for this community. The training will include identifying sources of data including MassCHIP, the Massachusetts Vital Registry and local data; primary data collection using focus groups, data analysis using PPOR and PAR, and setting up a mechanism for providing on-going technical support for analyzing data and for conducting and analyzing focus group data. The Team will work with community partners to frame the issue of perinatal disparities in Springfield by:

- 1) identifying factors in Springfield that contribute to the excess of fetal and infant deaths among the black population in their community;
- 2) measuring racial disparities in perinatal outcomes;
- 3) sharing information on institutional, personally mediated and internalized racism and its impact on health outcomes; and
- 4) examining the role of racism in perinatal outcomes.

Once the issue is framed, the Team will collaborate with Springfield partners to develop a strategic plan to address perinatal disparities in their community. The steps taken in developing this plan include:

1) providing an overview of the decision-making model;

- 2) developing an ecological approach to defining perinatal disparities;
- 3) developing a logic model that will provide a framework for evidence-based programs that address perinatal disparities; and
- 4) engaging in strategic planning that seeks to identify strategies that increase public awareness, advocate for resources to eliminate disparities in quality of care, and inform policy action to address institutional racism.

Finally, the Team plans to develop and implement a plan to disseminate results throughout Springfield and to other Massachusetts communities that will include a model curriculum on developing data-driven strategic plans to address perinatal disparities.

The Perinatal Disparities Project will also establish a formal communication network between Massachusetts communities to encourage information sharing, raise public awareness, and advocate for resources to eliminate institutional racism. The Team will:

- 1. conduct an assessment including interviews with stakeholders from across the state to assess current need and to distinguish best practices for addressing perinatal disparities;
- 2. plan and conduct a Perinatal Disparities Summit in the fall of 2006 that will provide opportunities for stakeholders across the state to examine current knowledge of the issues and develop policy recommendations; and
- 3. develop and implement a statewide strategic plan for reducing perinatal health disparities across the Commonwealth.

E. References:

- 1. Charmicheal SL, Iyasu S. Changes in the black-white infant mortality gap from 1983 to 1991 in the United States. Am J Prev Med 1998;15:220-7
- 2. Wise PH, Wampler N, Barfield W. The importance of extreme prematurity and low birth weight to US mortality patterns: Implications for prenatal care and women's health. J Am Med Womens Assoc 1995;50(5):152-5
- 3. Mass CHIP 3.00r311 data runs on 2003 Birth Data: March 2005
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- 7. Jones, CP. Levels of Racism: a theoretical framework and a gardener's tale. Am J Public Health 2000; 90(8): 1212-15.
- 8. Richmond, JB, Kotelchuck M. Co-ordination and development for strategies and policy: The United States Example. In: Holland W, Detels R, Knox G. eds., Oxford Textbook of Public Health, vol 21. Oxford: Oxford University Press, 1985: 195-205.
- 9. Kotelchuck, M. An Evaluation of the Kessner Adequacy of Prenatal Care Index and a Proposed Adequacy of Prenatal Care Utilization Index. Am J Public Health. 1994; 84:1414-1420.

F. Tables

Table 1: Racial disparities in birth outcomes: Massachusetts— 1998 - 2002

	Black	White	Relative Risk
% <28 weeks gestation VPTB	1.7	0.5	3.68 (3.33 <rr<4.07)< td=""></rr<4.07)<>
%<37 weeks gestation PTB	12.1	7.5	1.60 (1.55 <rr<1.66)< td=""></rr<1.66)<>
% <1500 gms VLBW	3.2	1.1	2.80 (2.61 <rr<3.01)< td=""></rr<3.01)<>
% <2500 gms LBW	12.0	6.5	1.84 (1.78 <rr<1.91)< td=""></rr<1.91)<>
% Feto-Infant death	2.3	0.8	2.82 (2.59 <rr<3.07)< td=""></rr<3.07)<>

Table 2: Racial disparities in birth outcomes: Springfield, Massachusetts—1998 - 2002

	Black	White	Relative Risk
% <28 weeks gestation VPTB	1.7	0.6	3.0 (1.80 <rr<5.01)< td=""></rr<5.01)<>
% <37 weeks gestation PTB	13.1	9.7	1.35 (1.18 <rr<1.55)< td=""></rr<1.55)<>
% <1500 gms VLBW	2.6	1.3	1.97 (1.38 <rr<2.82)< td=""></rr<2.82)<>
% <2500 gms LBW	11.5	7.9	1.44 (1.24 <rr<1.68)< td=""></rr<1.68)<>
% Feto-Infant deaths	2.2	0.9	2.29 (1.53 <rr<3.45)< td=""></rr<3.45)<>

Table 3. Characteristics (in number) of preterm and term births in Springfield, MA 1998 - 2002

	Preterm	Term	RR*	P value
Race/ethnicity				
Black**	340	2,251	1.35	< 0.001
White	386	3,579		
Maternal education				
< HS**	451	3,061	1.20	< 0.001
≥ HS (incl. GED)	899	7,486		
Maternal age				
< 20 years**	289	2,020	1.35	< 0.001
≥ 20 years	1,065	8,541		
Source of payment for delivery				
Public Insurance**	906	6,679	1.15	0.01
Private Insurance	432	3,719		
Adequacy of prenatal care				
Inadequate/intermediate/none**	363	3,047	0.92	0.17
Adequate/adequate plus	968	7,436		
Maternal smoking during pregnancy				
Smoking**	282	1,854	1.21	< 0.01
Non-smoking	1,070	8,698		

Table 4. Characteristics of Black and White births in Springfield, MA 1998 - 2002

	Black	White	RR*	P value
Maternal education				
< HS**	529	542	1.51	< 0.001
≥ HS (incl. GED)	2069	3,471		
Maternal age				
< 20 years**	510	387	2.03	< 0.001
≥ 20 years	2,098	3,628		
Source of payment for delivery				
Public Insurance**	1,856	1,544	1.85	< 0.001
Private Insurance	692	2,371		
Adequacy of prenatal care				
Inadequate/intermediate/none**	901	775	1.79	< 0.001
Adequate/adequate plus	1,684	3,203		
Maternal smoking during pregnancy				
Smoking**	427	959	0.69	< 0.001
Non-smoking	2,178	3,054		

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Table 5. Population Attributable Risk Percent (PAR%) in Springfield, MA 1998 - 2002¹

Risk Indicator	Prevalence of Risk Indicator	Relative Risk	PAR%	Excess PTB
Black ²	39.5%	1.35	12.1%	87
< High School Education ³	29.5%	1.20	5.5%	75
Maternal age <20 years	19.4%	1.13	2.4%	33
Public Insurance (payment for delivery) 4	64.6%	1.15	8.7%	117
Inadequate/intermediate/none prenatal care ⁵	28.9%	0.92	-2.2%	-30
Smoking during pregnancy	17.9%	1.21	3.6%	48

- 1. Exclude those with unknown risk exposure or gestational age
- 2. Compared to non-Hispanic white.
- 3. Compared to those who completed high school and above.
- 4. Compared to private insurance.
- 5. Compared to adequate and adequate plus prenatal care (Kotelchuck Index).

Table 6. Perinatal Periods of Risk (PPOR), Springfield, MA: 1998-2002

Excess FIMR (%) FETO-INFANT MORTALITY RATE (FIMR) All Races (4.2) All Races (8.4) Reference: MA non-Hispanic 1.8 3.5 White mom, 0. 0.3 2.0 1.3 1.0 2.6 \geq 20 years of age, 1 \geq 13 years of education (4.2) White (2.5) White (6.7) 0.3 1.7 2.0 0. 1.2 0.7 -0.2 2.1 0.6 0.5 2.7 1.5 3 Black (8.5) Black (12.7) 3.7 5.4 0. 2.9 1.2 1.9 1.9 3.5

Race	Excess FIMR (‰)	# Live Births/Fetal	# Excess Deaths
		Deaths	
All	4.2	12,017	51
White	2.5	4,019	10
Black	8.5	2,604	22

APPENDIX

Appendix 1: Logic Model

ensuring that all women have access to comprehensive high quality, culturally appropriate care and by eliminating institutional racism in the AMCHP Disparities Action Learning Lab - State Team Logic Model GOAL: Improve black perinatal outcomes in Massachusetts by health care system.

Assumptions: Institutional racism contributes to disparities in access to high quality perinatal health care

Assumptions, mentional facioni communica	merr	TOTINI TUCISIII COII		in access to ingli yu	to enspairings in access to inglisquality permatar meaning care	Carc	
	-			Short-term	Intermediate	Long-term	
Inputs		Activities	Outputs	Outcomes	Outcomes	Outcomes	Impacts
				(e months)	(1-2 years)	(3+ years)	
Staff (city and	•	Coordinate a	■ Draft	 Decision 	 Promulgation 	 Compliance of 	
state		process to	document that	making	of	all	
employees)		revise current	tracks changes	process for	Massachusetts	Massachusetts	
B Stakeholders	<u>-</u>	perinatal	to Perinatal	revising the	Perinatal	Birth Hospitals	Improved
Community		regulations	Regulations	Massachusetts	Regulations to	to the new	Black perinatal
Needs			completed and	Perinatal	mandate	Perinatal	outcomes
Assessment		Create	distributed	Regulations	minim	Regulations.	including IMR,
■ State MCH	***************************************	workplan for		established	standards of)	LBW, VLBW,
Needs	············	developing	■ Identify key		care in all Birth	Establishment	PTB and
Assessment		best practices	issues for	 Decision 	Hospitals	of best practice	maternal
■ HCQ Reports		guidelines	inclusion in	making	ı	guidelines	mortality rates.
■ Maternal			best practice	process widely	 Workplan 	statewide to	•
Mortality and	2	Identify	guidelines	extended to all	developed for	address racism	
Morbidity		additional		citizens of the	establishing	and ensure	
Review		sources of data	 Generating 	Massachusetts.	best practice	equal access to	***************************************
FIMIR		collection to	reports for use		guidelines to	high quality	
Child Fatality		monitor	at the	 Approval from 	address racism	perinatal health	
Reviews		perinatal	community	the Public	and ensure	care for all	
■ Birth Reports		disparities	and state levels	Health Council	equal access to	women.	
Funding			that identify	for proposed	high quality to		
MATRICHS	=	Train	perinatal	changes to	perinatal health	Massachusetts	
Training		community	disparities	Perinatal	care for all	PRAMS	
)		partners is the		Regulations.	women.	surveillance	
		use of PPOR,				system in	
		PAR, and				place.	

13

		70		43																									
	■ Effective	evidence-based	programs in	place statewide	to address	perinatal	disparities																						
Final report on	PRAMŠ pilot	study and	proposal for	grant	application to	CDC.		• Use of	evidence-based	data to inform	community	and state	decision	makers on	program	priorities to	address racism.												
■ Identify and	develop ways	to improve	current state	data systems to	better capture	perinatal	disparities	(including	conducting a	PRAMS pilot	study, BRFSS,	PELL and	MassCHIP)		■ Using	additional	approaches to	analyzing data	including	PPOR, PAR	and focus	groups	■ Evidence-	based data	community	work plans	developed to	address	perinatal disparities
Focus Groups	as analytic	tools.																											
		J										1. 6 474																	

Appendix 2: Ecological Model

	RACIAL ETHNIC DISPA	RITIES IN PERINATAL OUTC	COM	RACIAL ETHNIC DISPARITIES IN PERINATAL OUTCOMES IN MASSACHUSETTS ECOLOGICAL MODEL	OGICAL MODEL	
	Racial/e	Racial/ethnic disparities in perinatal outcomes in Massachusetts	tal o	utcomes in Massachusetts		
	Biologic Environment	Physical Environment		Social Environment	Health Care Environment	onment
Community	Environmental	 Neighborhood 		Stereotyping	 Access to health care 	re
	exposures (air pollution,	safety/violence	-	Gender-related roles (e.g., low	 Health insurance coverage 	overage
	bus depots, waste	 Neighborhood poverty 		job control, high job demand)	 Immigrant status disclosure 	isclosure
	transfer stations)	 Availability of healthy 		Racism (historical impact of	 Mental health 	
	 Availability of green 	foods		racism on black identity)	 Transportation 	
	space/places to be	■ Exposure to sub-standard		Stigma of poverty (e.g., use of	 Geographic distribution of 	ution of
	active (Physical	housing stock (lead paint,		public services)	health care centers	
	environment?)	vermin, mold, rodents,		Stigma of using mental health	 Reproductive health services 	h services
	Poor quality drinking	cockroaches, insulation)		services	 Access to pharmaceutical 	eutical
	water	 Marketing strategies that 		Inadequate enforcement of	drugs/tiering of preventive	eventive
	Sound pollution	increase exposure to		gun control	and therapeutic drugs	ıgs
	■ Lead levels in soil	tobacco/alcohol		Gang violence	 Quality of Care)
		advertising		Neighborhood cohesion	 Differences in diagnostic 	nostic
		 Exposure to fast 	•	Religious groups	testing, treatment, preventive	breventive
		food/liquor stores		Neighborhood segregation	services	
		 Availability of 	•	Educational resources/school	 Quality of care, including 	luding
		Public/affordable		systems	provider attitude, advice on	dvice on
		transportation		Availability and affordability	(preventive) smoking/alcohol	ng/alcohol
		 Availability of places to 		of safe childcare	use, contraceptives	
		be active (both biologic	•	Lack of integrated social	 Culturally Competent Care 	ent Care
		and physical?)		service systems	 Availability of health care 	th care
		Older housing/less	•	Lack of political support to	resources competent	nt
		insulation/drafts		address issues of racism	linguistically, and culturally	ulturally
		 Heat bills 	•	Immigrant and second	 Providers/-patient 	
		 Community crowding 	····	migration settlement patterns	racial/ethnic concordance	rdance
		 Garbage collection/ 	•	Political environment re:	■ Limits of the Bio-medical	nedical
		improper garbage		reproductive health (pro-life	Environment	
		disposal		vs. pro-choice, school-based	 Power/authority 	
				education programs)	 Ethnocentricity 	
					 Child-centric 	
***************************************					 Devaluing women's health 	s health

Document 96-2

	Racia	al/ethnic disparities in pe	erin	Racial/ethnic disparities in perinatal outcomes in Massachusetts	
	Biologic Environment	Physical Environment		Social Environment	Health Care Environment
Family	Family history -	 Household tobacco 	•	Intimate/emotional support	 Family financial resources
	medical	smoking		Alcohol and substance use in family	to access to care
-	Family history -	 Alcohol/substance 		Household strain	 Family value to preventive
	mental	nse		Family poverty/SES	care
	health/depression	 Depression 	=	Family/cultural practice toward	 Family diet preference
	 Family history of 	 Family violence 		pregnancy & parenting (number,	
	addictions	Household crowding		spacing, & timing)	
	Mother/sister's	Substandard Housing	•	Unease and Unfamiliarity with social	
	LBW/preterm/infant)		service and health care systems –	
	death			move to health care environment?	
	Impact of		•	Family and personal decision	
	intergenerational			regarding reproductive health	
	stress		•	Impact of slavery on family/parental	
				roles	
				Family and cultural practices	

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		Biologic Environment	Physical		Social Environment	Health Care Environment
			Environment			
Individual		Genetic make-up	 Safe sex practice, 	-	Intention of pregnancy Use	 Individual financial
	•	Alcoholism	increased risk of		of alcohol/ substances	resources to access to care
	-	Presence of chronic conditions, e.g.,	STD/HIV/AIDS		Personal coping resources	 Use of available
		diabetes, H/T, asthma	/use of condoms		(e.g., self esteem, sense of	prenatal/postpartum care
		Impact of carcinogenic	 Hard physical 		control over life, self-	services
		environmental pathogens	work		efficacy) (self-advocacy?)	 Use of substance (alcohol,
	=	Presence of acute conditions, e.g.,	 Environmental 	•	Personal experiences of	cigarette smoking, drug)
		bacteria vaginosis	exposures		racism	 Prenatal nutrition
	=	Preconceptional nutrition status	through job		Spirituality	 Adequacy of prenatal
	•	Preconceptional weight	■ Intimate partner	-	Perceived and actual	exercise
		Preconceptional overall health	violence		psychological stress	"Compliance" with medical
		Previous LBW/ preterm/infant	 Substance/alcohol 		Isolation	advice
		death	nse	=	Internalized racial	 Lack trust of health care
	=	Physiological Impact of Chronic			oppression	services
		Stress		*	Acculturation	 Sporadic use of knowledge
					Ability to negotiate safe sex	 Knowledge and practice of
					behavior of partner	health promotion/risk
						reduction
		Poor birth ou	Poor birth outcomes/infant and maternal survival vs. death	nater	nal survival vs. death	

Appendix 3: Effect Modification/ Biases

A. Assessing Effect Modification

A1. Overall

Maternal Age < 20

Maternal Age >/= 20

	PTB	Term
Black	340	2251
White	386	3597

	PTB	Term
Black	86	616
White	50	473

	РТВ	Term
Black	254	1635
White	50	473

RR= 1.35

RR = 1.32

RR= 1.43

A2. Overall

Public	Insurance

Private	Insurance
FINAIR	THSHEATICE

	PTB	Term
Black	340	2251
White	386	3597

	PTB	Term
Black	253	1601
White	143	1401

	PTB	Term
Black	83	609
White	239	2132

RR= 1.35

RR = 1.47

RR= 1.19

A3. Overall

Edu	cation	<hs< th=""></hs<>
-----	--------	-------------------

Education	n >	/=	HS

	PTB	Term
Black	340	2251
White	386	3597

	PTB	Term
Black	74	448
White	66	47663

	PTB	Term
Black	265	1794
White	319	3123

RR= 1.35

RR = 1.18

RR= 1.45

A4. Overall

	PTB	Ter
		m
Black	340	2251
White	386	3597

Inadequate	PNC
------------	-----

	PTB	Term
Black	110	783
White	57	711

	PTB	Term
Black	224	1452
White	323	2857

RR= 1.35

RR = 1.75

RR = 1.36

B. Identifying Biases

The Team discussed that potential biases may rise by using data from electronic birth certificate (EBC) and focus groups. Five selected covariates were discussed: maternal age, education, health insurance, smoking status, and prenatal care.

Data collection from the EBC

Mothers are asked to fill out a parent questionnaire at the birth hospital. The information collected from this parent questionnaire includes maternal education, maternal age and maternal smoking. Designated birth hospital staff also complete a hospital questionnaire that includes payer of delivery and adequacy of prenatal care. The information collected from both questionnaires and the medical record is then inputted into the EBC. The designated birth hospital staff who inputs the data into the EBC varies by birth hospital and includes nurses, physicians, birth registrars and data entry personnel. This variation in professionals may have an effect on a mother's response to a particular question. In addition, if there are concerns for maternal literacy level or maternal language barriers, the designated birth hospital staff fills out the parent questionnaire with and for the mother that may also have an effect on a mother's response to questions.

Data collection for focus groups

Women from Springfield will be recruited to participate in focus groups in order to to understand their experience with the health care system as black or hispanic women; and as women who experienced PTB. The Team will use the qualitative data gathered from the focus groups to 1) better understand how women in Springfield react to services and interventions they have received while pregnant; 2) assess the range of opinions and perspectives on women's experiences with the healthcare system; and 3) to inform the strategic planning process by identifying effective community approaches to addressing perinatal disparities. In order to engage the local community who will be among the key stakeholders and potential beneficiaries of the information collected through the focus groups, the Team will work with the MCH Commission to develop a written plan and interview guide for the groups. The plan will include the purpose of the group, team members and assigned roles, logistics, participant selection criteria and recruitment, incentives and timelines. The interview guide will include an opening question to break the ice, an introductory question to introduce the topic, a transition question to move discussion towards the topic, key questions to probe the area of interest, and an ending question to close the topic. Each focus group will include 7-10 women. A trained moderator from the community will ask questions, listen attentively, and keep the discussion on track. An assistant moderator will take extensive notes, operate the tape recorder, and be responsible for the logistics. The tapes will be transcribed and combined with the assistant moderator's notes. The Team will de-identify all data and analyze the results to identify issues, patterns and common experiences; gain insight into participants perspective on perinatal disparities; and use the participants' experience and opinions, in their own words, to inform the community strategic planning process.

1B. Information Bias: Systematic errors in the way disease status or exposure is determined for some or all of the individuals in a study, including recall bias, social acceptability bias and interview bias. These can all lead to misclassification bias. Misclassification bias refers to problems in labeling the cases, controls, exposed and unexposed. Differential misclassification occurs when misclassification is unidirectional.

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Potential information biases from EBC:

Possible sources of misclassification bias on the EBC may occur when someone other than the mother is filling out the birth certificate, and misclassifies the mothers race based on their own perception of her race, rather than the mother's self-identified race. It would be difficult to determine whether this an unidirectional or bidirectional misclassification.

- Maternal Education Variable: This variable may be based on the interviewer's (a.k.a. person inputting data onto the computer/EBC) perception, especially when the mother's first language is not English. There are different education systems for mothers who receive their education abroad.
- <u>Insurance Type Variable:</u> This variable can be confusing. Women on MassHealth (Medicaid) are sometimes assigned to a MassHealth affiliated Managed Care Organization (MCO) and the women then possess a MassHealth card and a MCO card. The distinction between them and a privately insured woman on the same MCO may not always be clear.
- Maternal Age Variable: If someone other than the mother is filling out the birth certificate, that person could make assumptions about the mother's age. In addition, the actual question on the EBC is asking for the mother's date of birth. Mothers born in other countries may use calendars other than the American calendar, e.g., lunar calendar.
- Maternal Smoking Variable: This variable may be misclassified as maternal smoking status is selfreported by the mother.
- Prenatal Care Variable: This variable is usually entered into the EBC by hospital staff. If the prenatal care chart is not complete, women may be misclassified as having "inadequate prenatal care" when actually the information needed for making this determination is missing.

Potential information biases from focus groups:

- Maternal Education Variable: This variable may be misclassified by the Interviewer based on the Interviewer's stereotypical expectations.
- <u>Insurance Type Variable</u>: This variable may be misclassified by the Interviewer based on the Interviewer's stereotypical expectations.
- Maternal Age Variable: This variable may be misclassified by the interviewer based on the Interviewer's stereotypical expectations.
- Maternal Smoking Variable: This variable may be misclassified by the interviewer based on the mother's self report which may not always be accurate.
- Prenatal Care Variable: This variable may be misclassified by the interviewer based on the mother's self report which may not always be accurate.

2B. Interview Bias: The tendency to interpret, rather than record, answers to questions administered by an interviewer. The Interviewer may consciously or subconsciously filter responses according to some preconceived notion about the subject.

Potential interviewer biases from EBC:

The Interviewer may not be able to read the mother's handwriting and subsequently, the Interviewer may type in incorrect information into the EBC. The Interviewer, being human, is prone to human error (typing error, forgetting a data field, etc.) and the possibility of making an unintentional mistake. In addition, an Interviewer working with a mother who speaks a primary language other than English may may not be able to understand what the mother says or writes, and as a result, may input data as to what they "thought" the mother meant to say. Finally, the Interviewer may not ask

the mother how she classifies her own race but may make an assumption based on how the mother looks or acts.

Potential interviewer biases from focus groups:

- <u>Maternal Education Variable</u>: The Interviewer may select specific questions to ask mothers depending on their education level and what they believe to be the mother's level of comprehension. The Interviewer may equate non-English speaker mothers with having a low education level.
- <u>Insurance Type Variable</u>: The Interviewer may have preconceived notions of women based on socio-economic status. Also, the Interviewer may feel embarrassed or ashamed to ask certain questions about a person's personal finances.
- <u>Maternal Age Variable</u>: The Interviewers opinion of what is an appropriate maternal age or opinion of teen pregnancy may affect the question set or differ from mothers prerogative for bearing children (albeit cultural as well).
- <u>Maternal Smoking Variable</u>: The Interviewers opinion of maternal smoking may alter a mother's answers resulting in social acceptability bias.
- <u>Prenatal Care Variable</u>: The Interviewers opinion of "adequate prenatal care" may differ culturally from others.

In addition, there are multiple other factors that may lead to Interview Bias during a focus group. The Interviewer may prompt the mothers during the focus group into giving specific answers. The Interviewer may phrase questions that stigmatize mothers and prompt social acceptability bias. The Interviewer might record answer in "his/her own words" vs. the words of the mothers. The Interviewer might not ask certain questions in order to avoid offending someone.

The issues of race, culture, religion, socio-economic status, and sexual orientation might consciously or subconsciously lead the Interviewer down one path of questions while leaving out other questions. The Interviewer may not speak the same language as the mothers, and therefore interpret their answers in his/her own words. Finally, the Interviewer may anticipate a mother's answer and record the answer inaccurately.

3B. Recall Bias: The tendency for people who have a disease (cases) to try harder to recall past experiences than controls. Since cases are usually searching for a cause of disease they maybe more motivated to give questions of this sort more consideration or thought.

Potential recall biases from EBC:

- Maternal Smoking Variable: Women may differ in their recollection of the number of cigarettes she may have had during pregnancy.
- Prenatal Care Variable: Mothers may differ in their recollection of their number of prenatal care visits, when their prenatal visits were initiated and/or if their delivery providers were different than their prenatal care providers.

Potential recall biases from focus groups:

Maternal Education Variable: Depending upon the educational experience, some mothers may recall this experience while others may be indifferent. Socio-economics, self-esteem, extracurricular activities, age, race, and geography are all factors that influence a woman's education experience and influence her opinions or memory of that experience.

- <u>Maternal Smoking Variable</u> Women may differ in their recollection of the number of cigarettes she consumes.
- Prenatal Care Variable: If a mother feels that she had a negative or a positive prenatal care experience, she may recall this experience more readily than her counterpart who had a unremarkable experience. In addition, a mother's preconception as to what "adequate or inadequate prenatal care" consists of may effect her memory of the event and may be influenced by culture, social sphere, geography, and demographics.

In addition, mothers who have a "disease" (cause) may be more predisposed to try harder to recall past experiences that lead to their current situation. Other mothers who are indifferent or who do not feel a significant "cause" may not try as hard or may not have such a vivid memory of past events. Cultural norms or stigmas may also lead to social acceptability bias and prevent a mother from discussing her past memories or events. Furthermore, some mothers may be social, politically, or individually motivated to find a explanation for the "cause" which may lead to recalling events in a slightly skewed light in order to fit the solution for the "cause" (searching bias). Others may be trying to defend or blame and thus, recall events slightly skewed as well or purposely leave out certain events that would be detrimental to their viewpoint (searching bias).

4B. Social Acceptability Bias: A tendency for interview subjects to alter their responses in order to make them more appropriate or acceptable.

Potential social acceptability biases from EBC:

- Maternal Education Variable: A mother with less than a high school education may alter her response as women with less than a high school education are generally stigmatized as less intelligent.
- Payer of Delivery Variable: People receiving public health insurance are generally stigmatized. However, this information is largely gathered directly from the insurance cards and inputted into the EBC.
- <u>Maternal Age Variable:</u> Younger and older women giving birth may express feelings of stigmatization and it may be reasonable to assume that very young mothers may state an older age while older mothers may state a younger age.
- Maternal Smoking Variable: A mother who smokes during pregnancy may alter her response as women who smoke during pregnancy are generally stigmatized. Here is a concern of underreporting of maternal smoking during pregnancy due to stigma.
- Adequacy of Prenatal Care: A mother may report a higher number of prenatal visits and/or report beginning prenatal care during an earlier trimester due to a stigma and a high level of guilt, particularly if the child was born with any complications.

Potential social acceptability biases from focus groups:

- Maternal Education Variable: A mother with less than a high school education may alter her response as women with less than a high school education are generally stigmatized as less intelligent.
- Payer of Delivery Variable: A mother who utilized public health insurance may alter her response as women utilizing public benefits are generally stigmatized. Many women on MassHealth also receive health benefits through a MCO such as Fallon or Neighborhood Health Plan. In this example, a woman may share that she receives health benefits through a MCO like Fallon and omit that she also receives health benefits through MassHealth.

- <u>Maternal Age Variable:</u> Young and older women giving birth may express feelings of stigmatization and it may be reasonable to assume that very young mothers may state an older age while older mothers may state a younger age.
- <u>Maternal Smoking Variable:</u> A mother who smokes during pregnancy may alter her response as women who smoke during pregnancy are generally stigmatized.
- Adequacy of Prenatal Care: A mother may report a higher number of prenatal visits and/or report beginning prenatal care during an earlier trimester due to a stigma and a high level of guilt, particularly if the child was born with any complications.

5B. Selection Bias: Systematic differences in who is included in a study's exposure and outcome groups.

Potential selection biases from EBC:

- Preterm Birth and Term Birth: The issue of self-selection through non-response and volunteerism is not relevant to preterm and term births because the EBC is filled out for each birth in Massachusetts and all births are included in this analysis. As for exclusion bias, births are classified as preterm or term based on specific criteria determined by the state and so there isn't the opportunity to self classify or opt out.
- Black and White: Mothers self identify their race on the birth certificate and there may be
 instances where mothers choose to not respond to this question or an interviewer may decide
 her race without asking her to self-identify Hafsatou Diop (Technical Analyst),.

Potential selection biases from focus groups:

- Preterm Birth and Term Birth: For the focus groups we will hopefully be able to recruit an equal number of women who had preterm and term births but it is likely that there may be selection bias in the focus groups. Women who had preterm births may be more likely to volunteer to discuss their experience than women who had term births. Depending on our outreach methods, we may also be more likely to recruit women who are better connected to a system of care and therefore be more knowledgeable about their risk factors.
- Black and White: It is possible that there would be a difference in black women vs. white women's participation in a focus group. This difference could go either way, black women who know that there is a higher rate of preterm birth in the Black community may be either more or less likely to participate, more if they believe that it will help their community discover reasons for the disparities or less if they believe that the researchers would blame them or their community for the disparity.

Appendix 4: SWOT Analysis

PERINATAL DISPARITIES SWOT ANALYSIS

STRENGTHS WEAKNESSES

- Access to strong state data systems MassCHIP (BRFSS, Birth Data, Etc.)
- Ability to analyze state data using PPOR, PAR, etc.
- Partnering community (Springfield) has MCH Commission, FIMR and Strategic Planning Groups in place, and willing to work with project.
- Strong "facilitator team" made from DPH and BPHC to advise project.
- Heightened national awareness of racial disparities in health care system (IOM report).
- Bilingual/multicultural staff to assist with training, focus groups, and data analyses
- State Commission currently identified to address racial disparities in health outcomes

- Lack of sustainable funding
- Serious state-wide and national problem
- Difficulty of identifying and measuring institutional racism
- No staff identified with this as their SOLE responsibility —we are all fitting this in with multiple roles and responsibilities

OPPORTUNITIES THREATS

- Possibility of identifying perinatal disparities as a state priority for MCH Title V Block Grant
- Congruence of perinatal disparities as a priority for several communities (Boston, Worcester, Lawrence, Brockton, Holyoke, Springfield) as well as for state
- Strong interest in sharing experiences and lessons learned between communities
- Potential funding from national sources
- Priority concern for many national organizations including AMCHP, MOD, Office of Minority Health (OMH)
- Priority for MCHB and CDC

- Lack of funding
- Institutional racism systemic and not recognized by individuals working within the health care system – lack of connection between their practice/behaviors and how they are perceived by their clients.
- Intricate, multi-layered problems encompassing socio-economic factors

Dept. of Public Health Page 24 2/2/2007

Appendix 5: Springfield, MA Training Schedule

Springfield Training in using state and local data to address racial disparities in birth outcomes

TRAINING PLAN Revised 6/15/2005

Claudia Catalano (Project Coordinator), Karin Downs (Decision Maker), and Penny Liu (Technical Analyst)with additional assistance from The Massachusetts Department of Public Health, Division of Perinatal, Early Childhood and Special Health Needs (DPECSHN) and The Boston Public Health Commission (BPHC), Training Team: Maia BrodyField (Community Advocate), Beth Buxton (Program Analyst), Zobeida Bonilla-Vega (Community Advocate/Technical Analyst) Hafsatou Diop (Technical Analyst),

Roles for Springfield Participants:

Decision Maker - Defines the policy questions or issues; links with other organizations; guides analyses

Technical Analyst - Conducts analyses of state, national and local data using statistical software; responsible for statistical and database manipulation and will provide support to others.

Program analyst – provides expertise on logistics, requirements and purposes of community MCH programs that address perinatal disparities Community Advocate - represents consumers and individuals who could be influenced by the MCH decisions in this process. The role of the community advocate is to bring the perspective of those affected by policy and programs into the analytic domain.

organizes and compiles individual and group assignments. This individual provides administrative and logistical support to the entire team. Team Coordinator-Coordinates project activities, facilitates communication among team members, coordinates meeting logistics, and

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an opportunity to directly manipulate computer lab would give participants through projection with an LCD - a

data and navigate the Mass CHIP

computer lab

through Mass

appropriate

CHIP

MCH-

community data

Other DPH

Anyone interested

Springfield

analysts

in learning to use

Mass CHIP

Should identify SOME people

staff as

Penny Liu

available

system.

with at least one terminal

participants

download and

and willing to help

collection and

analysis

with data

with interest in

Mass CHIP register for

earn how to

per 4

Participants will

If unable to arrange a computer lab, DPH can demonstrate the program

DPH - lap

Participants will

Hafsatou

Diop

analysts, program

Other interested

Providers

members of

community

Fechnical

2.5 - 3hours

June 13

9:30 -

12:00

Training CHIP Mass

learn how to

top and

LCH

use state and

Commission/FIMR - identify and

will provide)

training process

LCD (DPH

Powerpoint

DPH-

Orient a wider

group to the

proposed

MATRICHS members of

Content

Goals/

Facilitator,

Participants

Trainer

Decision Makers

Place $_{
m Time}$

Date

Topic

1 Hour

Possible

Planning

[echnical Analysts

Springfield

8:30 - 9:30

June 13

dates:

Meeting

Responsibilities of MCH

notify all appropriate persons of

Identify meeting space and time Inform meeting participants of

> appropriate numbers of participants

> > Develop a time

Room for

Comm.

MCH

and outcomes

of strategic

planning

members of MCH

Commission

FIMIR

Strategic Plan

Subgroup

CBŎ's

Community Health Care

All interested

process

Identify goals

(Listed above)

team

Program Analysts

Community

Advocates

meeting

Additional Comments

Resources

Responsibilities

DPH - lead discussion

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Universit	June 27	Full day	11	Univ. of	Content will be	DPH-	Possible training topics:
y of Rochester	(previously scheduled	Sprinoffeld	Program Analysts Technical	Rochester – MATRICHS	discussed and identified at the	laptop, LCD, training	Introduction to Enidemiology 1 and 2
Training	date based	Arms arm	Analysts	Training	Springfield	materials	PAR
)	on Univ.		Community	Team	Planning	MCH	Program Evaluation
	jo		<u>Advocates</u>		Meeting	Commission	
	Rochester availability					 room for training 	
Universit	June 28	Full Day	Decision Makers	Univ. of	Content will be		
y of			Program Analysts	Rochester –	identified by	DPH/MAT	
Rochester		Boston	Technical	MATRICHS	Massachusetts	RICHS -	
- Part 2			Analysts	Training	MATRICHS	laptop, LCD,	
			Community	Team	team	materials	
			Advocates				
			Open to anyone				
			wishing to				
			participate and				
PPOR /	Lote	Enll Don (if	Tachaical	Hoforton	Description	Thri I.a.	D. H. d
DAD	Assess /		1 ccililical	naisatou G.	Necognize and	Urn – Lap	Full day training – would need to
FAK 	August/	we include	Analysts (but	Diop	understand all	top, LCD,	schedule in lunch and breaks
Training	Early	both PPOR	open to others	Penny Liu	components of	training	
	September	and PAR)	interested)	Emily Lu	PPOR	materials	
		Half day	One possibility is	Karin Downs	approach		
		(for just	to identify staff		Achieve a	MCH	
		one of	from a local		common	Commission	
		these	academic		understanding	- training	
		trainings)	institution who		of what it takes	room for 20	
		Springfield	could then		to conduct the	participants	
			provide support		first phase of	- with ability	
			for students to		analysis	to break out	
			carry out PPOR		•	into groups	
			projects (analyze			of 4 or 5	
			data and present				
			to MCH				
			Commission)				
			(limit to 20)				

Full day training – would need to schedule in lunch and breaks	Full day training open to as many members of the community as possible – will need to schedule breaks and lunch
DPH – Lap Fu top, LCD, training materials MCH Commission – training room for 20 participants – with ability to break out into groups of 4 or 5	DPH – Lap top, LCD, mutaining materials lu MCH Commission – training room for number of participants registered
Describe key logistical and content features of conducting focus groups Create focus group protocols centered around disparity data Identify uses for MCH data focus groups in their own communities Participate in focus group	Racial disparities in Perinatal Outcome — National, state and city data Understanding racism — institutional, personally mediated and internalized Understanding the impact of racism on perinatal health
Zobeida Bonilla-Vega MATRICHS staff	MA MATRICHS Team Possible Outside trainers – Undoing racism Michael Lu Jim Collins
Community Advocates, program analysts (and interested others) Community staff who would be helping to conduct focus groups (limit to 20 participants)	Decision makers, program analysts, community advocates All interested members of MCH Commission FIMR Strategic Plan Subgroup CBO's Community Health Care Providers Other interested members of community in the community of the interested members of community (no limit on the number)
Full Day Springfield	Full day Springfield
Early September	October
Focus Group Training	Framing the Issues

	November	Strategic November Full day	Decision makers,	MA	Present data	DPH – Lap	Full day training open to as many
		Springfield	program analysts,	MATRICHS	from PPOR,	top, LCD,	members of the community as possible
\triangle	December		community	Team	PAR and Focus	training	- will need to schedule breaks and
			advocates and at		groups to:	materials	lunch
			least one technical		Map an ecologic		
			analyst.		model of the	MCH	
			Members of		community	Commission	
			Strategic Plan		Develop a logic	training	
			Subgroup		model to	room for	
			FIMIR		inform policy	number of	
			MCH		and identify	participants	
			Commission		program	registered	
			leaders		priorities		
			Community				
			leaders				
			(20 participants)				-

EXHIBIT B (Part 1)



MOVING DATA INTO ACTION

Overview

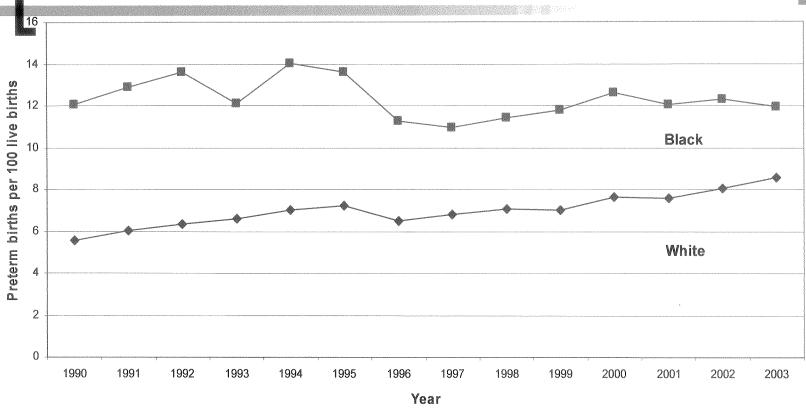


- Background
- Project Goals
- Community Profile
- Study Question
- Data Sources
- Methods
- Results
- Data to Action

Background Statement of Need

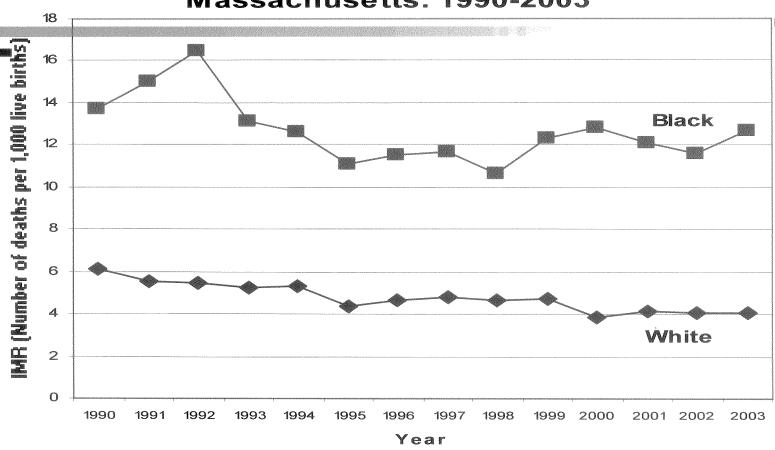
- High perinatal disparities based on race
- Blacks three to four times more likely to experience:
 - Preterm Birth
 - Low Birth Weight
 - Feto-Infant Death

Trends in Preterm Birth (< 37 weeks gestation) by Race, Massachusetts: 1990-2003^{*}



^{*} Massachusetts Department of Public Health, Center for Health Information, Statistics, Research, and Evaluation, Research and Evaluation, Research and Epidemiology Program. Massachusetts births 2003. Boston: Massachusetts Department of Public Health; 2005.





*M assachusetts Department of Public Health, Center for Health Information, Statistics, Research, and Evaluation, Research and Evaluation, Research and Epidemiology Program. M assachusetts births 2003. Boston: M assachusetts Department of Public Health; 2005.

Goal #1 MA Perinatal Disparities Project

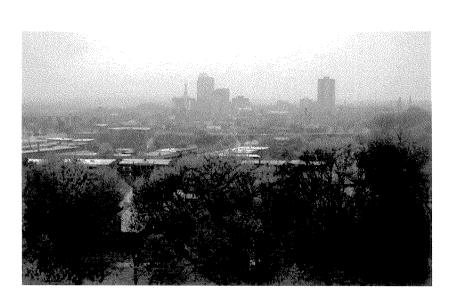
Enhance the capacity of the community partners to address racial disparities in birth outcomes by collecting and analyzing state and local data to inform policy and identify program priorities

Goal #2 MA Perinatal Disparities Project

Establish a formal communication network between Massachusetts communities to encourage information sharing, raise public awareness, advocate for resources to eliminate institutional racism defined as differential access to the goods, services, and opportunities of society by race.

Community Profile

- Springfield: third largest city in MA
- High racial disparities in birth outcomes
- Poverty Indicators:
 - Median Household income \$30,400 (MA at \$50,500)
 - Per Capita Income at \$15,200 (MA at \$26,000)
- Presence of FIMR



Massachusetts Map

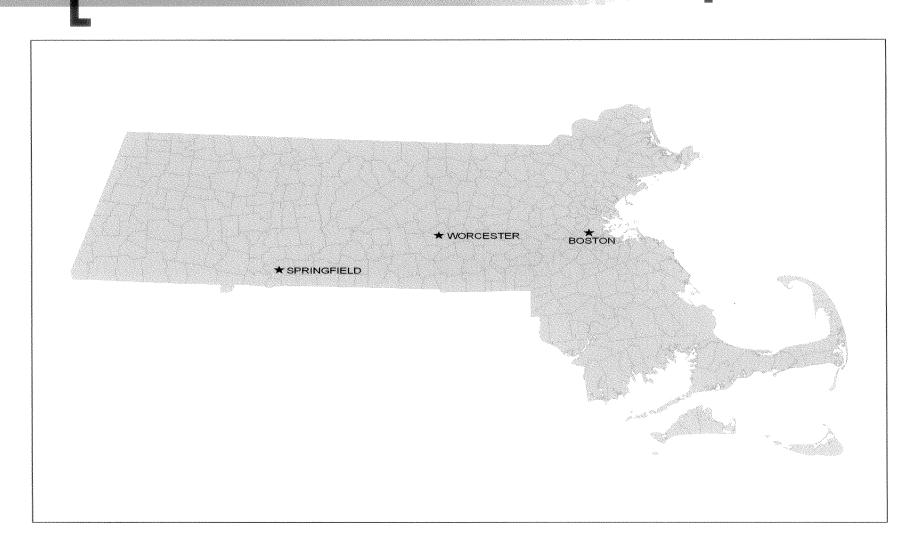


EXHIBIT B (Part 2)

Page 1 of 8

Study Question

within the last 5
years (1998-2002) in
Springfield, MA, what
factors contributed to
the excess of poor
birth outcomes
including fetal/infant
death, preterm births,
and very preterm
births among blacks?



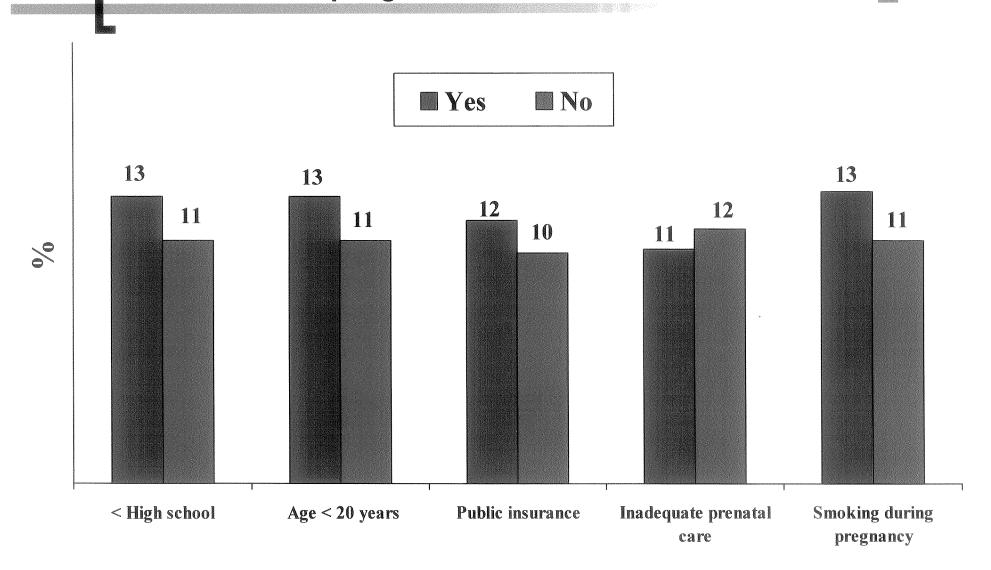
Source of Data

- MassCHIP (http://masschip.state.ma.us)
- Vital Registry
- Community Sources

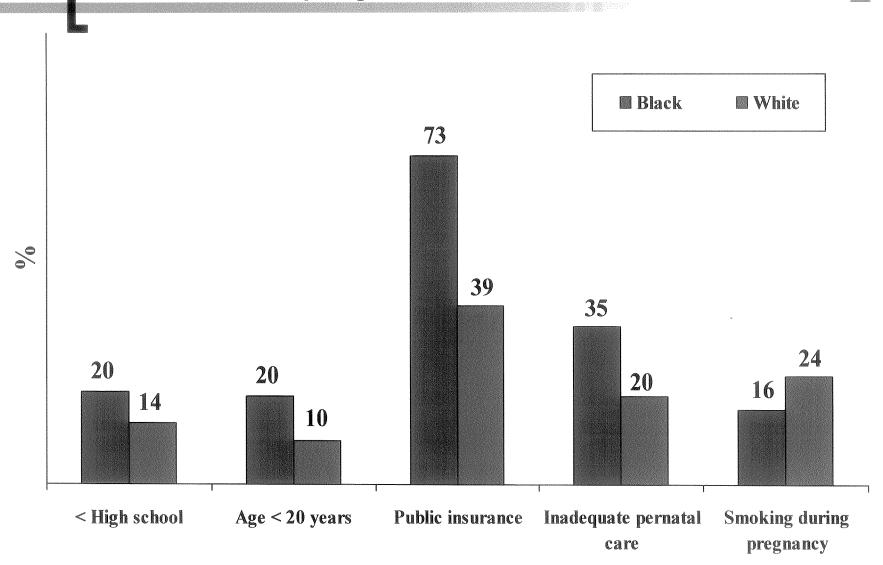
Analytic Methods

- Quantitative Methods:
 - Bivariate analysis
 - Population attributable risk (PAR)
 - Perinatal periods of risk (PPOR)
- Qualitative Methods
 - Focus groups

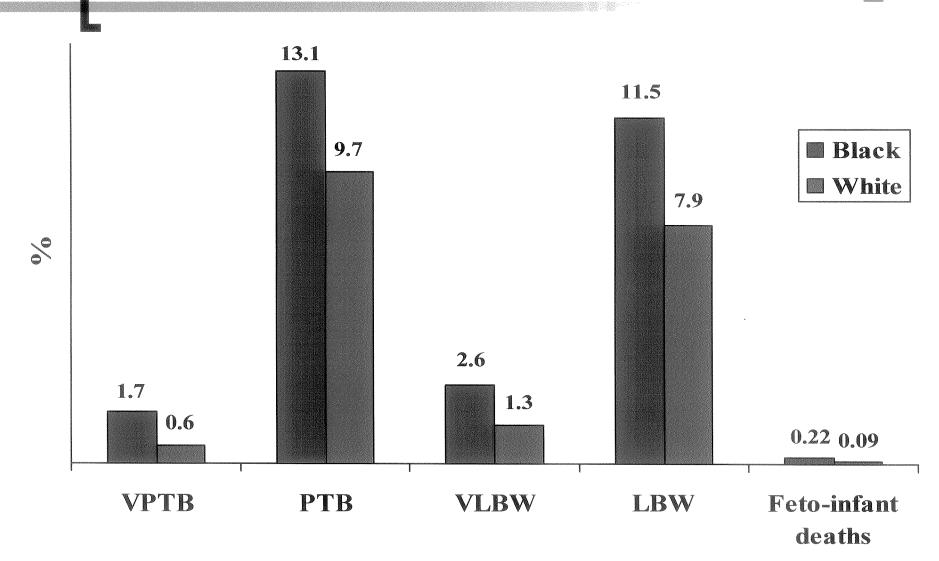
Preterm Births by Selected Maternal Characteristics, Springfield, MA 1998-2002*



Selected Maternal Characteristics by Race/Ethnicity, Springfield, MA 1998-2002*



Racial disparities in birth outcomes Springfield, MA 1998-2002



PAR % for VLBW in Springfield: 1998 - 2002

Risk Indicator	PAR %
Black	36.20%
Hispanic	28.21%
Public insurance	16.34%
< High school education	10.85%
Smoking in pregnancy	6.24%
Maternal age < 20 years	5.32%
Inadequate prenatal care	-0.01%

EXHIBIT B (Part 3)

Overall Feto-Infant Mortality Springfield, MA:1998-2002*

Fetal Deaths

Neonatal

Post neonatal

500-1499 g

Maternal Health/ Prematurity

3.5

8.4

1500 + g

Maternal

Care

1.3

Newborn

Care

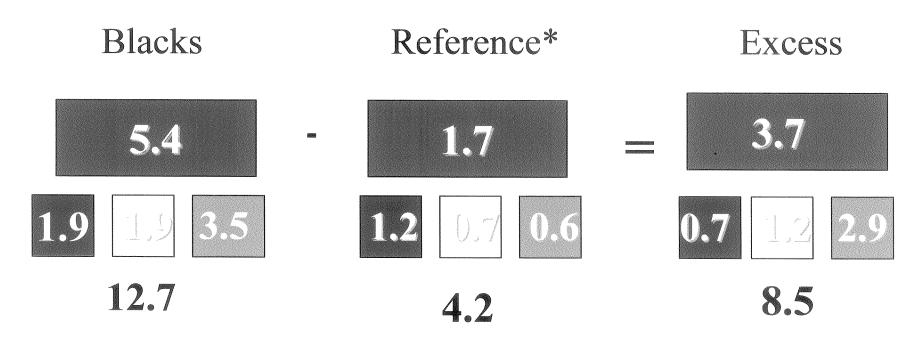
1.0

Infant

Health

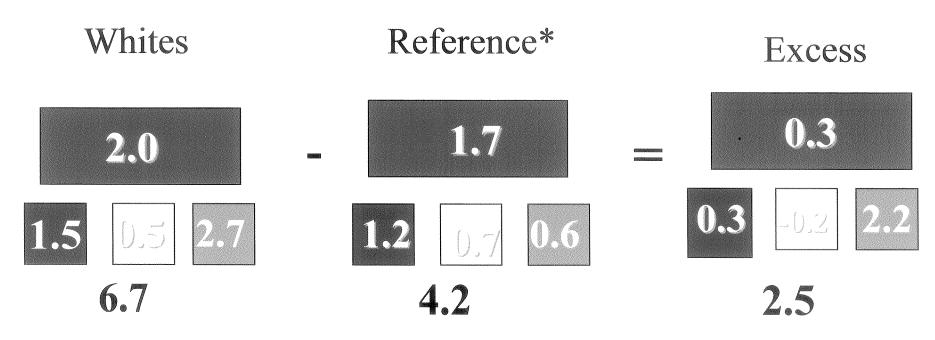
2.6

Excess Feto-Infant Mortality among blacks in Springfield, MA 1998- 2002



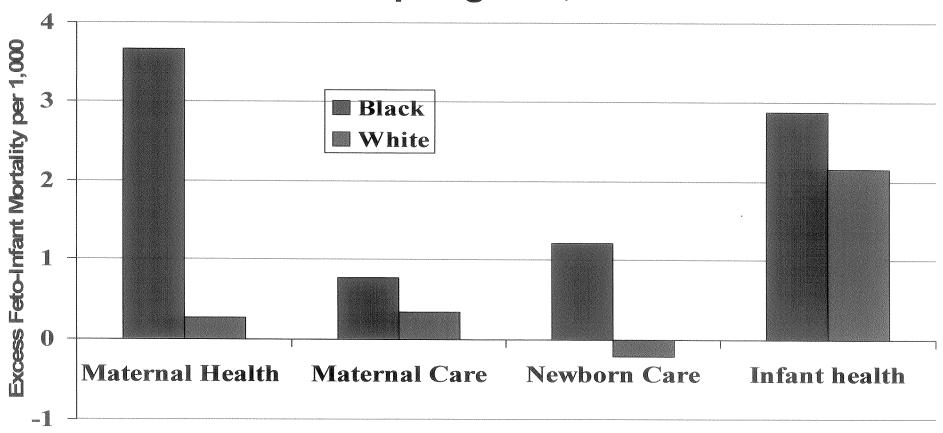
^{*} Reference group: MA, non-Hispanic white mom >= 20 years, >= 13 years of education

Excess Feto-Infant Mortality among whites in Springfield, MA 1998- 2002



^{*} Reference group: MA, non-Hispanic white mom >= 20 years, >= 13 years of education

Excess Feto-Infant Mortality among the blacks and whites in Springfield, MA: 1998-2002*



^{*} Reference group: MA, non-Hispanic white mom >= 20 years, >= 13 years of education

Number of Excess Deaths

Springfield MA, 1998-2002

Groups	Excess Rate (per 1,000)	Live Birth Fetal Death	Number of Excess Deaths
AII	4.2	12,017	51
White	2.5	4,019	10
Black	8.5	2,604	22

^{*} Reference group: MA, non-Hispanic white mom >= 20 years, >= 13 years of education

Qualitative Methods: Focus Groups

- Developed a comprehensive training curriculum on
 - how to conduct focus groups
 - developing questions
 - ensuring reliability and validity
 - data analysis
- Plan to conduct training and conduct focus groups in winter 2006-2007

Process Methods

- Ecological Model
- SWOT Analysis
- Logic Model
- Training Plan

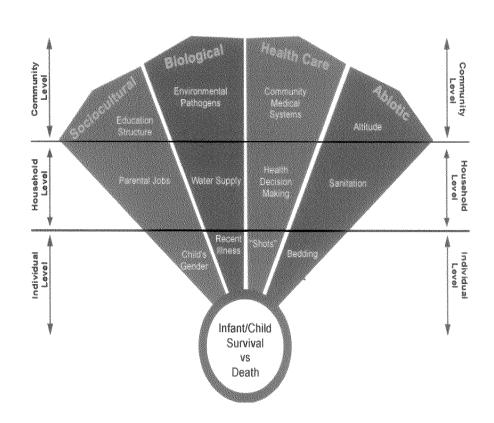


EXHIBIT B (Part 4)

Ecological Model

- Acknowledges the importance of the social, physical, and biological environments within which people live.
- Relates these factors with perinatal outcomes.
- Creates an opportunity to view this issue from a multi-level perspective.
- Can lead to logic modeling that will help identify program strategies to address racial disparities in perinatal outcomes.

SWOT Analysis

- Strengths, Weaknesses, Opportunities, Threats
- "Strengths and weaknesses are usually internal and refer to the present state of the organization, while opportunities and threats are typically external and future oriented."

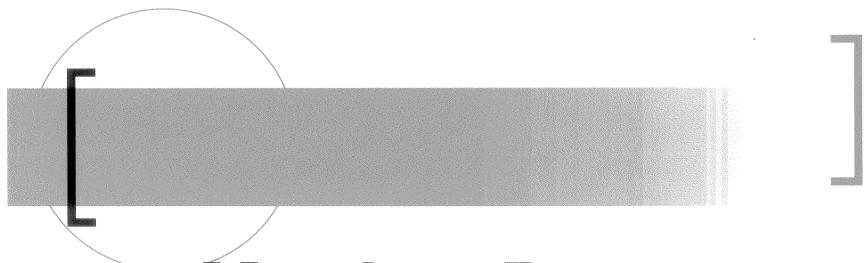
-John M. Bryson, 1995

Logic Models

- Systematic, visual tool to present a planned program with underlying assumptions and theoretical framework.
- "Picture" that diagrams why and how a solution will work.
- Components linked causally by time order or sequences of actions; directly connected to state goals/objectives or program.

Training Plan

Developed a training plan focused on collecting and analyzing data, framing the issue, and developing a strategic plan to address perinatal disparities in the community.



Moving Data to Community Action

Framing the Issue with Springfield

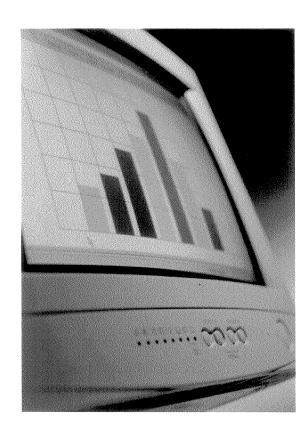
- Identified perinatal disparities at the community level
- Identified factors in the community that contribute to the excess of poor birth outcomes among blacks
- Understand the role of racism in perinatal disparities

Springfield FIMR

- Perinatal Disparities Community Partner: Springfield Fetal Infant Mortality Review (FIMR) Team
- FIMR Group coordinated by the City
- Membership includes a Pediatrician, EI, MDPH, Community Nurse, SIDS Coordinator, & City Officials

Strategic Planning

- Plan to Develop a Strategic Plan using community based data:
 - To inform policy, and
 - To identify program priorities.



Action Steps

- Target investigations and prevention efforts on the gap.
- Focus FIMR activities on the maternal and infant health issues contributing to the gap.
- Describe in greater depth the risk factors, events, or services that may contribute to the gap.

Developing a Strategic Plan with Springfield

- Develop a plan that will provide a framework for evidence-based programs through the use of analytic and process methods.
- Engage in planning that identifies strategies to increase public awareness and inform policy action to address institutional racism.
- Disseminate results throughout Springfield and other Massachusetts Communities.

Next Steps

Create a statewide communication network

Develop and disseminate a toolkit that includes a training manual

Strengthen community FIMR's to address perinatal disparities

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